**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-15. (Cancelled)

16. (Currently Amended) An automatic system for the storage of samples comprising a lower chamber wherein a stack of disks independently rotatable around a vertical axis is arranged, said disks being provided with locations for storing the samples and with radial slots, the lower chamber in selective communication only with an upper chamber located above and separated from the lower chamber by means of a shelf fitted with an opening, the upper chamber in selective communication with external world only by an I/O drawer,

characterized by a Cartesian robotic system disposed in the upper chamber and configured to direct a pick-up device in horizontal and vertical directions only, the system comprising ~~which comprises~~ a horizontal rail that ~~axis lying~~ extends entirely across ~~along a diameter of~~ the stacked disks with a portion of the horizontal rail extending above the opening of the shelf and a vertical rail ~~axis~~ movable along the horizontal rail ~~axis~~ and along which the [[a]] pick-up device can move into and out of the lower chamber for loading or unloading the samples wherein, when the pick-up device moves into and out of the lower chamber for loading or unloading the samples, the radial slots of the disks which are above one of the disks bearing the location of a chosen sample, are vertically aligned with the opening.

17. (Previously Presented) System according to claim 16, wherein the lower chamber is a controlled temperature thermo-insulated chamber.

18. (Previously Presented) System according to claim 16, wherein the shelf is a thermally insulated shelf.

19. (Previously Presented) System according to claim 16, wherein the opening is a controlled access opening.

20. (Previously Presented) System according to claim 16, wherein the opening has a length at least equivalent to a maximum radial distance between two samples on same disk.

21. (Previously Presented) System according to claim 16, wherein the radial slot has a length at least equivalent to a maximum radial distance between two samples on same disk.

22. (Cancelled)

23. (Previously Presented) System according to claim 16, wherein every disk of the stack is held by a group of three supports positioned at 120 degrees along a periphery of each single disk.

24. (Previously Presented) System according to claim 16, wherein each single disk, and only one disk at a time, can be rotated by means of a device, which couples on a corresponding periphery of each disk.

25. (Previously Presented) System according to claim 24, wherein a complex of toothed wheels always in contact on a peripheral toothing of the corresponding disks and of a engaging device integral with a motorized shaft which is suitably commanded places in rotation only one toothed wheel and thus the corresponding disk of the stack.

26. (Previously Presented) System according to claim 16, wherein all the disks are held blocked by an "0" device with the slots aligned vertically, except for the one disk whose rotation brings the location under said slots.

27. (Previously Presented) System according to claim 26, wherein the "0" device is fitted with a sensor capable of monitoring the position of said "0" device and, at the same time, an "0" position of each disk held blocked.

28. (Previously Presented) System according to claim 25, wherein the one disk of the stack that is placed in rotation by the device is monitored in its angular position by means of an encoder mounted on the motorized pulling shaft.

29. (Previously Presented) System according to claim 16, wherein the upper chamber contains a device for identifying the samples input to and output from the system.

30. (Currently Amended) System according to claim 16, wherein the operations of inserting and extracting the samples from the system comes about by means of the [[an]] I/O drawer that connects the external world with the upper chamber containing, amongst other things, the robotic device.

31. (Previously Presented) System according to claim 16, wherein the samples are accessible from the lower chamber only by means of the robotized system.

32. (Previously Presented) System according to claim 19, wherein the controlled-access opening is fitted with bodies that keep said opening closed so that the bodies open said opening only when the sample pick-up device is required to pass there through.

33. (Previously Presented) System according to claim 16, wherein the pick-up device of the sample is equipped with an optical sensor for monitoring correct positioning of said pick-up device in relation to the location of the chosen sample.

34. (Currently Amended) System according to claim 16, wherein the robotic system, a system for identifying the sample, an optical sensor and the [[an]] I/O drawer are contained in the upper chamber permitting maintenance activity to be carried out on said robotic system, said system for identifying the sample, said optical sensor and said I/O drawer without interfering with the controlled-temperature chamber.

35. (Previously Presented) System according to claim 16, wherein the entire management of the devices of the system is controlled by a control system driven by a dedicated management SW.

36. (Previously Presented) System according to claim 16, wherein the robotized system is controlled by a SW that records every operation set up by an operator and carried out by the system.

37. (Currently Amended) System according to claim 16, wherein the vertical rail ~~axis~~ is operatively connected with the horizontal rail ~~axis~~, wherein such operative connection enables the vertical rail ~~axis~~ being movable along the horizontal rail ~~axis~~.

38. (Currently Amended) System according to claim 37, wherein the vertical rail ~~axis~~ is fitted with the pick-up device.